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THEORETICAL BASES, ACTUAL LEGAL ISSUES AND RISKS OF LEGALIZATION OF DIGITAL CURRENCY IN THE ECONOMIC SYSTEM OF UKRAINE

Abstract. The development of the latest information technologies, the high degree of development of the information content of society, the change in social and industrial relations, the strengthening of the role of innovation in the financial sector lead to the emergence of new forms of money that are more convenient and also instantly allow you to pay for any product or service. In modern market conditions, electronic money and digital currency are becoming more common. The latter, in turn, gives its owner the right to new opportunities in economic relations, but is also associated with the emergence of certain economic risks. This raises the urgent issue of identifying and neutralizing economic risks associated with the introduction of digital currency and the possibilities of ensuring its proper legal regulation.

Keywords: risks; economic risks; digital currency; electronic money; legal regulation; IT; fraud; insurance; virtual currency.

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ТЕОРЕТИЧНІ ОСНОВИ, АКТУАЛЬНІ ПРАВОВІ ПИТАННЯ ТА РИЗИКИ ЛЕГАЛІЗАЦІЇ ЦИФРОВОЇ ВАЛЮТИ В ЕКОНОМІЧНІЙ СИСТЕМІ УКРАЇНИ

Анотація. Розвиток новітніх інформаційних технологій, високий ступінь розвитку інформативності суспільства, зміна суспільних та виробничих відносин, підсилення ролі інновацій у фінансовій сфері призводять до появи нових форм грошей, які є більш зручними, а також миттєво дозволяють здійснити оплату за будь-який товар чи послугу. В сучасних ринкових умовах все більшого поширення набувають електронні гроші та цифрова валюта. Остання, в свою чергу, надає право її власнику на нові можливості в господарських відносинах, проте й пов'язана з виникненням певних економічних ризиків. З цього постає актуальне питання щодо виявлення та нейтралізації економічних ризиків, пов'язаних із впровадженням цифрової валюти та можливостями забезпечення її належного правового регулювання.

Ключові слова: ризики; економічні ризики; цифрова валюта; електронні гроші; правове регулювання; ІТ-технології; шахрайство; страхування; віртуальна валюта.

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ТЕОРЕТИЧЕСКИЕ ОСНОВЫ, АКТУАЛЬНЫЕ ПРАВОВЫЕ ВОПРОСЫ И РИСКИ ЛЕГАЛИЗАЦИИ ЦИФРОВОЙ ВАЛЮТЫ В ЭКОНОМИЧЕСКОЙ СИСТЕМЕ УКРАИНЫ

Аннотация. Развитие новейших информационных технологий, высокая степень развития информативности общества, изменение общественных и производственных отношений, усиление роли инноваций в финансовой сфере приводят к появлению новых форм денег, которые являются более удобными, а также мгновенно позволяют

осуществить оплату за любой товар или услугу. В современных рыночных условиях все большее распространение получают электронные деньги и цифровая валюта. Последняя, в свою очередь, дает право ее владельцу на новые возможности в хозяйственных отношениях, но и связана с возникновением определенных экономических рисков. С этого возникает актуальный вопрос по выявлению и нейтрализации экономических рисков, связанных с внедрением цифровой валюты и возможностями обеспечения ее надлежащего правового регулирования.

Ключевые слова: риски; экономические риски; цифровая валюта; электронные деньги; правовое регулирование; IT-технологии; мошенничество; страхование; виртуальная валюта.

Introduction. Lately, particular attention has been paid all over the world to the issues of digital currency and electronic money, their use, issue and circulation. New means of payment, technology, services, contribute to the emergence of a number of issues of digital currency issuance by central banks of different countries. This process is not possible without: legal regulation of electronic and digital currencies; carrying out legal assessment and analysis of economic risks related to cryptocurrency ownership; research and study of the forms of money that determine the degree of ownership risk for their owners.

Thus, there is an exploration of the various legal procedures for the functioning of money before they become cryptocurrency. At the same time, attention is paid to the risks, since cryptocurrency works slightly differently.

The relevance of research. Nowadays, society is in the conditions of rapid development of information and telecommunication technologies that are used daily in people's lives. IT systems and communication tools facilitate and accelerate the interconnection between business entities of different forms of ownership. The information currency is not provided, it is characterized by the convenience of using it when buying and transferring money to the Internet among users, so the peculiarity of this currency lies in its uniqueness as a means of exchange and use that characterizes it as a software product.

Analysis of recent research and publications. The issues of digital currency, the risks associated and the fundamentals of the legal support of functioning have been the subject of many works by prominent academic economists, among which are: E.P. Ellinger, E. Lomnicka, C.V.M. Hare, I. Kaminska, R. McMillan, Nakamoto Satoshi, G.A. Dymenko, T.V. Kapelyushnaya, A.A. Loban, A.Yu. Dyachek, Ya.I. Sardak, N.A. Mostovenko, S.V. Naumenkova, V.I. Mishchenko, S.V. Mishchenko, N. Panteleeva, V.V. Priyan, M.A. Tchaikovskaya, O.A. Shuba, Yu.Yu. Goncharov, A.V. Bulygin and other.

The aim of research is to clearly demonstrate the risks posed by owners of different forms of money, to identify the risks inherent in digital currencies in countries that actively use to account for them in the project of creating a digital currency of the central bank in our country.

Results of the investigation. Currently, the company is in the conditions of rapid development of information and telecommunication technologies and actively uses them in everyday life. Interconnected telecommunication systems, computer networks and information transmission tools simplify and accelerate the relationship between economic entities. Information, information technology and the economy are interlinked in terms of "information economy" and "digital economy", the main space of which is the Internet, which determines the spread of digital currency. The information currency is not provided with anything, it is characterized by ease of use when buying and transferring money to the Internet network among users. The peculiarity of the currency is its uniqueness as a medium of exchange, as well as its use, it is a software product. The very name of cryptocurrency is a

combination of the two words "crypto" (protection of the transaction chain, protection of the database, which are carried out with monetary units) and "currency" [5; 6].

The issue of cryptocurrency exists as if imaginary, since banking institutions cannot issue it, since it does not control and receive payment for certain operations with it. The term "cryptocurrency" is defined by the draft Law of Ukraine No. 7183 dated 10/06/17 of the Year "On Circulation of Cryptocurrency in Ukraine" as a program code (a set of symbols, numbers and letters) that is an object of property right that can act as an exchange medium, information about which are entered and stored in the blockchain system as accounting units of the current blockchain system in the form of data (program code) [15].

According to the draft Law "On Stimulating the Cryptocurrency Market and Their Derivatives in Ukraine" dated 10/10/2017, cryptocurrency is a decentralized digital measurement of value, which can be digitally expressed and functions as a means of exchange, storage of value or unit of account based on mathematical calculations, is their result and has cryptographic accounting protection. Cryptocurrency for the purposes of legal regulation is considered a financial asset [14]. And you can get it only through mining, and according to the same law, mining (mining) of cryptocurrency is the activity of individuals and legal entities to conduct mathematical calculations in order to receive rewards in the form of cryptocurrency units [14]. Cryptocurrency, electronic or virtual currency – an electronic exchange mechanism that was originally conceived for online sale or money transfer between network users. Emission and accounting of cryptocurrencies is based on the use of asymmetric encryption and cryptographic protection methods, and the functioning of the system is decentralized in a distributed computer network [8; 9].

The legal aspects of maintaining and regulating the existence of this type of currency require a detailed study, therefore it is necessary to analyze the consequences of using cryptocurrency in terms of risks and legal classification, it is necessary to find their place in the legal system [5]. Thus, cash is a claim for the payment of money in primary material form. Today, economists are primarily concerned about the risks that arise for each individual type of money, depending on their degree of liquidity.

However, we can assume that in the era of the digital economy it is advisable to pay more attention to the various forms of legal rights of precisely digital currencies. It should be noted that risks are inevitable even for cryptocurrency, which is considered safe today. The main risk arises as a result of fraud, which is difficult to determine, in order to fix it, you need to provide for all its forms, focus on possible ways or means of fraud. With the rapid development of technology, the possibilities of scammers are growing, so the question of its elimination is especially acute. Currently, electronic money has gained distribution – units of value that are stored on an electronic device are accepted as a means of payment by other persons in cash or non-cash form [7].

Since 2009, Bitcoin appeared – an electronic payment system based on cryptographic evidence instead of trust, which allows any two interested parties to carry out direct transactions with each other without the need for a trusted third party [10]. Through the central role played by cryptography in the system, Bitcoin, its derivatives are called cryptocurrency. After validation, Bitcoin operations are irreversible. Unlike DigiCash, the absence of an issuer or a trusted third party means that bitcoin and other cryptocurrencies cannot be considered as a claim personally against the issuer and therefore should be analyzed differently from bank money and previous forms of digital money. Cryptocurrencies differ in nature from material money in the form of banknotes and coins. It should be noted that as a result of a study of works [9–18] it was determined that cryptocurrency is vulnerable at several levels. Some assumptions regarding its weaknesses are theoretical, but many of them are actually used in practice. On a personal level, a person’s private cryptographic key may be "stolen". If it is stored electronically on your personal computer or mobile device, then this is

a "theft" or hack that can be achieved using interspersion or email applications, or using keystroke recorders or software to track a private cryptographic key, which he introduced. Even if the private cryptographic key is not stored electronically, but offline, for example, using the so-called paper wallet, access to the private cryptographic key still allows the thief to get to bitcoin. There are also security flaws at the network level, although the threat here mainly remains only in theory [5].

According to the Financial Times, "the on-line lists led by members of the Bitcoin community indicate that bitcoin exchanges were subjected to 60 carefully planned and serious hacker attacks. In general, it was noted that almost every day, the main companies that host the financial data were attacked by intruders. Most of the companies did not have adequate basic protection measures, some were behind the technological capabilities and ingenuity of hackers, which they could not counteract as a result of technological backwardness".

Thus, antivirus software accurately detects the majority of malware, but only a small part of the threats from the software. A large number of malicious software appears daily, today not one system is not protected from fraud, most often attackers focus on the weakest link in the system, and in the case of bitcoin and other cryptocurrencies that use blockchain technology, end users (including the exchange) will often be the weak link cryptocurrencies), not the integrity of their ledgers, which seem to remain largely secure [19]. So, cybercrime is intensifying, cyber risk is growing in the financial sector, so you need to take into account all possible variations of threats as much as possible and resist attacks from cyber criminals. Since the popularity of electronic currency is noted and interest in this type of payment is growing all the time, many countries are considering the possibility of issuing their own digital currency by central banks. Countries whose central banks are studying the possibility of issuing digital currency can be divided into three groups [5]:

1) countries conducting digital currency research;

2) countries that have taken practical steps to issue digital currency;

3) countries that have criticized the idea of digital currency or curtailed their research on this topic.

Ukraine belongs to the group of countries that are exploring the possibility of issuing digital currency and is one of five countries that is practically developing a pilot project to introduce its own digital currency – e-hryvnia [5]. The National Bank in the framework of the project set the following goals: testing distributed ledger technology (DLT) as the technological basis for issuing and circulating electronic hryvnia and testing the ability to implement such projects. The Bank lists the risks that may arise in the event of the introduction of currency [16; 17]:

- technology risk;
- the risk of influence on the implementation of monetary policy;
- risk of violation of financial stability;
- reputational risks for the central bank.

It seems that from the first days of the advent of digital currencies, central banks expressed interest in them, including their suitability for widespread use and / or the possible replacement of tangible or banking assets with digital ones.

This issue needs to be more thoroughly considered and assessed the extent of the problems and risks associated with its implementation or adoption as a substitute for material means [4; 5]. By their nature, like bank money (which most people consider digital money), they are subject to the risks of loss as a result of cybercrime.

However, the former are usually covered by other investors in the form of fees and bank charges, and the latter, as a result of theft from a cybersite, is an unlimited crime where it is very difficult to identify the culprit. Automation allows a criminal to achieve a

significantly larger number of thefts (relatively few offenders can cover a very large number of victims in a short period of time).

Conclusions and suggestions. Any central bank that is serious about issuing digital currency should thoroughly consider the problem of cybersecurity at the individual user level, and also introduce a certain form of insurance for loss, due to hacking, or both. It is necessary to conduct a gradual introduction of currency, while maintaining the constant use of coins and banknotes. When developing digital currencies, you need to beware of the hype surrounding the blockchain technology, which is the basis of bitcoinin and other cryptocurrencies. The blockchain cryptographic recording system is aimed exclusively at the problem of double expenses and does not protect against any other types of fraud. In other words, the blockchain protects the network from user fraud, but does not protect users from outside fraud, so you need to take into account all possible risks and ensure proper legal regulation, therefore this issue should be investigated in parallel and with a warning along with the development of digital currencies [5].

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